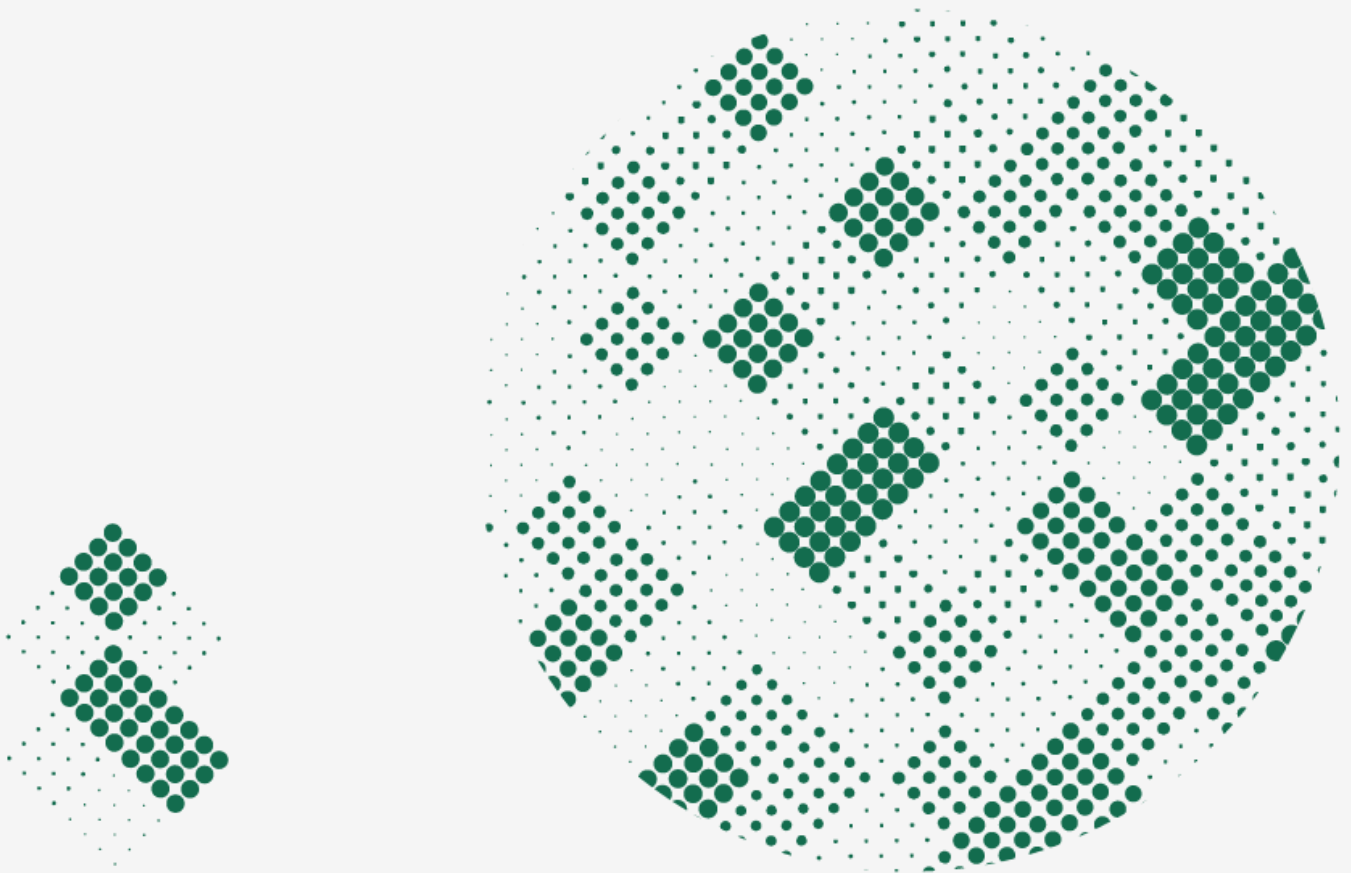




RESPONSIBLE
RESEARCH AND
INNOVATION IN
TERRITORIES

Deliverable 4.4

Transformative Outlook for the Energy Transition in Thalwil



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101006439

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Deliverable 4.4

Transformative Outlook for the Energy Transition in Thalwil

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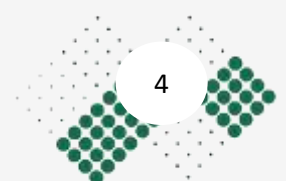
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P4	THE CATALAN FOUNDATION FOR RESEARCH AND INNOVATION	FUNDACIO CATALANA PER A LA RECERCA I LA INNOVACIO	FCRi
P5	ZURICH UNIVERSITY OF APPLIED SCIENCES	ZURCHER HOCHSCHULE FUR ANGEWANDTE WISSENSCHAFTEN	ZHAW
P6	REGIONAL ASSOCIATION OF LOCAL GOVERNMENT OF WESTERN MACEDONIA	PERIFEREIAKI ENOSI DIMON DYTIKIS MAKEDONIAS	LGA-WM
P7	SOFIA DEVELOPMENT ASSOCIATION	АСОЦИАЦИЯ ЗА РАЗВИТИЕ НА СОФИЯ (ASSOTSIATSIA ZA RAZVITIE NA SOFIA)	SDA
P8	MUNICIPALITY OF THALWIL	GEMEINDE THALWIL	THA
P9	ECONOMIC DEVELOPMENT AGENCY OF SABADELL CITY COUNCIL	PROMOCIO ECONOMICA DE SABADELL	PES SL



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Executive Summary

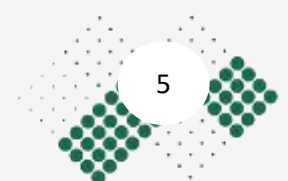
The transformative outlook is the final product of the policy co-creation process for the energy transition in Thalwil. It contains an action plan with five objectives and nine actions and covers the areas of municipal role model behaviour in the building and construction sector, strengthening stakeholder networks, communication, increasing recycling and circular economy services, and supporting sustainable mobility.

The actions were created in a multi-phase co-creation process. In an expert Delphi Study, potential actions of consensus were determined. In a Citizen Review Panel, citizens of diverse socioeconomic backgrounds rated the acceptability of these proposals, suggested changes and proposed additional actions. Finally, in a Stakeholder Workshop, the here presented proposals were collaboratively reworked into implementable actions, considering the inputs of the citizens.

The actions supplement existing municipal policies and contain elements of RRI-AIRR keys and dimensions.



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Preface

The RRI-LEADERS Project

RRI-LEADERS is a three-year EU-funded project (2021-2023) exploring the relevance of the principles for Responsible Research and Innovation (RRI) to territorial policymaking. The territories in RRI-LEADERS consist of three European cities and one region and act as demonstrators for the transformative potential of RRI-AIRR on a sub-national level. Through a co-creation process involving multiple stakeholders and citizens, each territory analyses and integrates RRI-AIRR to their chosen policy areas:



The city of Sofia (Bulgaria): Support for innovation; digital transition and new skills; youth employment and entrepreneurship; and sustainable urban development.



The municipality of Thalwil (Switzerland): Energy transitions and climate change responsiveness.



The city of Sabadell (Catalonia, Spain): Inclusiveness and alignment of the territorial innovation ecosystem with societal challenges considering sustainability, focused on the topic of active ageing.



The region of Western Macedonia (Greece): Economic transition to low-carbon economy, in particular a smooth and innovative transition from the coal value chain towards an alternative development paradigm.

The **Transformative Outlooks** are the final outputs of the co-creation process. These outlooks consist of an action plan with measures for implementing the intended transformation in each territory through the integration of RRI-AIRR as a framework for addressing territorially significant policy areas. The following is the Transformative Outlook for Thalwil.

Please visit the project website for more information: www.rri-leaders.eu.






The RRI-AIRR Framework

Originally, Responsible Research and Innovation (RRI) is an approach used to align research and innovation processes and outcomes with societal needs and expectations, including ethical considerations, promotion of gender equality, and inclusion of perspectives from societal actors. Instead of applying the elements of RRI to research and innovation activities only, this project seeks to integrate RRI into territorial governance with the aim to foster a systematic approach to responsible, science evidence-based policymaking.







The project integrates two complementary understandings of RRI: The five RRI keys and the four AIRR dimensions – making up the RRI-AIRR Framework. The RRI keys are of different conceptual natures but can be understood as *policy agendas*. The five RRI keys are: public engagement, open access, gender equality and diversity, ethics, and science education. The AIRR dimensions can be seen as *process requirements*, outlining four characteristics of an RRI process. The four dimensions are: anticipation, inclusiveness, reflexivity, and responsiveness (Klaassen, et al. 2014).

The project adopts the following understanding of RRI: “A transparent, interactive process by which societal actors and innovators become mutually responsive to each other with a view to the (ethical) acceptability, sustainability and societal desirability of the innovation process and its marketable products” (von Schomberg 2011).

The understanding of RRI diverges only slightly from this definition in that it does not promote the separation of innovators from the rest of the societal actors as mentioned above and instead seeks to include all societal actors as co-creators in the innovation processes. In doing so, RRI-LEADERS’ interpretation of RRI draws heavily on the extension of the RRI framework proposed by (Stilgoe, Owen und Macnaghten 2013), who emphasise the prospective notion of responsibility by introducing four dimensions of RRI – anticipation, inclusiveness, responsiveness, and reflexivity, largely known as the AIRR dimensions. RRI-LEADERS integrates these four dimensions into its methodological design and operational implementation.

RRI KEYS	
	Public Engagement is about bringing together researchers, policymakers, industry and civil society organisations and NGOs, as well as citizens, to deliberate on matters of science and technology.
	Open Access is about the practice of providing open access to scientific information that is free of charge to the user and is reusable.
	Gender Equality and Diversity is about overcoming all barriers associated with gender, age, race, ethnicity, disability, and socio-economic status, and making science, research, and innovation fully accessible to people from the widest range of backgrounds, perspectives, and experiences, across all scientific disciplines and at all hierarchical levels.



	Ethics is about conducting research in such a way that allows others to have confidence and trust in the methods and findings of research.
	Science Education is about making science education and careers attractive for young people, targeting to drastically improve science and technology-literacy in our society.
AIRR DIMENSIONS	
	Anticipation is about systematic thinking on any known, likely, plausible, and possible implications of research, innovation, policy, or action.
	Inclusiveness is about the integration of perspectives from a wide range of societal actors (including non-organised and non-institutionalised citizens and community groups) and their involvement in multi-stage co-creation processes in a wide range of policy areas.
	Reflexivity is about critically scrutinising one's own activities, commitments, and assumptions, and being aware of the limits of one's knowledge. It implies a reflection about societal circumstances to reassess practices and adjust initiatives.
	Responsiveness is about placing societal needs in the focus of plans and actions of public leadership and governance, and engaging society in the processes of policy design and decision-making, as well as policy implementation, monitoring, and evaluation.



The Co-Creation Process

Over a period of three years, the RRI-LEADERS project developed and implemented a co-creation process. The first step was a comprehensive mapping focusing on the current status regarding the RRI-AIRR approach in Thalwil. Following this, stakeholders were engaged to develop ideas for actions towards the energy transition and the integration of RRI-AIRR. Based on this input, the first draft of the Transformative Outlook was developed. Subsequently, citizens were engaged to review and validate this draft. Based on this assessment and the suggestions of the residents, experts and stakeholders formulated the implementable final version of the actions in a workshop. Finally, the Transformative Outlook will be presented to the political decision-makers in the environmental commission and the municipal council.

Mapping 2021

In the first phase of the co-creation process, the state of play of RRI-AIRR in Thalwil was recorded and analysed with the involvement of representatives from science, politics, business and civil society. This has provided an overview of existing practices and policy developments that already consider RRI-AIRR or could consider it in the future.

The RRI keys and AIRR dimensions that are missing from the local energy transition policy documents formed the basis for the actions in this Transformative Outlook.

Stakeholder Engagement 2022

After that, an iterative Delphi Study was conducted. The Delphi Study consisted of a series of three questionnaires that allowed stakeholders to develop ideas and reach consensus on possible future developments in the field of energy transition policy and RRI-AIRR integration.

The stakeholders evaluated and prioritised 93 statements on the topic of energy transition in Thalwil. These statements were short sentences containing potential solutions, significant barriers or opportunities for integrating the RRI-AIRR approach into Thalwil policy. The consensus statements form the basis for the actions in this Transformative Outlook.

Citizen Engagement 2023

In the final phase of the co-creation process, a Citizen Review Panel reviewed and validated the Transformative Outlook by suggesting improvements to the objectives and actions contained therein.

This citizen review panel took place in Thalwil in May 2023. 21 residents with different socio-economic backgrounds and ages assessed the acceptance of the actions, jointly developed suggestions for improvement and ranked the priority of the actions.

In a stakeholder workshop in July 2023, experts and stakeholders formulated the suggestions of the population into implementable actions. These measures are the main outcome of the co-creation process and the core of this Transformative Outlook.

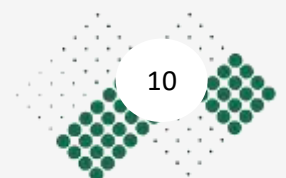


Endorsement
2023

Finally, the Transformative Outlook will be formally presented and reviewed by the environment committee and the municipal council in Thalwil.



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Objectives and actions for the energy transition in Thalwil

The actions proposed here are the result of the RRI-LEADERS process in Thalwil. They are the result of the co-creation process presented above. They are based on statements and best practices that reached a consensus in the Delphi study and were concretised at a World Café workshop with participants in the Delphi study and other stakeholders. From these statements, the project team drafted actions that were assessed by Thalwil residents. These assessments formed the basis for the formulation of the final version of these actions by experts and stakeholders.

This action plan is presented in the following. First, the results of the individual project steps are summarised. Then, a set of objectives is described together with a group of actions. The integration of RRI keys is explained for each objective. Finally, considerations on AIRR dimensions, communication and dissemination activities are outlined.

Below is an illustration of the policy area and objectives, including actions and main RRI aspects for each objective.

Policy area	Energy transition
Objective 1	The municipality is a role model for the energy transition
Action 1.1	Accelerated construction of photovoltaic systems on communal properties and infrastructure
Action 1.2	Introduction of sustainable construction standard
Action 1.3	Measuring progress in the energy transition and communicating with the population
Main RRI aspects	Public Engagement, Gender Equality and Diversity
Objective 2	The municipality strengthens its cooperation for the energy transition with the private sector and other stakeholders
Action 2.1	Ensuring the information exchange of existing networks on energy transition topics
Main RRI aspects	Public Engagement, Open Access
Objective 3	The municipality communicates energy and sustainability issues in a targeted and inclusive manner
Action 3.1	Development of a consistent communication concept on energy and sustainability issues
Action 3.2	Implementation of school project days on sustainability
Main RRI aspects	Public Engagement, Science Education, Gender Equality and Diversity



Objective 4	The municipality improves access to local recycling and circular economy services for the residents and businesses
Action 4.1	Expansion of local circular economy and recycling services in cooperation with private initiatives
Main RRI aspects	Public Engagement
Objective 5	The municipality supports the transition to sustainable mobility
Action 5.1	Increasing the visibility of the bicycle traffic concept
Action 5.2	Monitoring of bicycle traffic
Main RRI aspects	Public Engagement

Introduction to Thalwil

Switzerland's 8.7 million inhabitants live in 2148 different municipalities belonging to 26 Cantons (BFS 2022) (BFS 2021). The municipality of Thalwil is located in the German-speaking north of Switzerland, south of Zurich, on the shore of Lake Zurich. The proximity to the City of Zurich, Switzerland's economic and financial centre, shapes Thalwil's socioeconomic characteristics.

The 18'525 inhabitants live in approximately 8'400 households (Statistisches Amt des Kantons Zürich 2022). They are 51.2% female and 70.2% Swiss citizens. Thalwil's inhabitants are relatively wealthy compared to their Cantonal and national peers¹. Small enterprises in the service sector dominate Thalwil's economy². Most of Thalwil's working population commute outwards to their jobs in other municipalities. At the same time, inward commuters from the region hold the majority of jobs in Thalwil³.

The political system in Thalwil is direct democracy, as in the rest of Switzerland. In the Swiss federal system, the decision-making power is distributed between the national, cantonal, and municipal levels. Thalwil's inhabitants, who are Swiss citizens and above 18 years of age, are eligible to elect a nine-member municipal council and various committees in charge of specific topics, e.g., the spatial planning committee or the environment committee. Thalwil does not have a parliament. Decisions requiring approval by popular vote

¹ The average taxable income in Thalwil was 55'782 CHF/year/inhabitant in 2018. This is significantly higher than the average of the Canton of Zürich (40'679 CHF/year/inhabitant), and Switzerland (34'972 CHF/year/inhabitant) **Es ist eine ungültige Quelle angegeben..** Thalwil's inhabitants are also wealthier compared to their Cantonal peers. The average taxable wealth in Thalwil is 641'000 CHF, and 481'000 CHF in the Canton of Zurich (Statistisches Amt des Kantons Zürich 2022).

² 6'895 people worked in 1'338 enterprises, of which more than 1'200 were micro enterprises, and more than 1'200 belonged to the tertiary sector (Statistisches Amt des Kantons Zürich 2022). The workers shared 4'943 full-time equivalents, of which 951 were attributed to the secondary sector and 3.989 to the tertiary sector (Statistisches Amt des Kantons Zürich 2022).

³ The inhabitants and the workers are largely not the same people. In the year 2000, 76% of the employed population commuted to work in other municipalities, while 61% of the jobs in Thalwil were held by daily commuters from the region, resulting in a net outward commute of around -4'000 inhabitants daily (including students) (Bundesamt für Statistik, 2022).



are either voted in person at a popular assembly or at the ballot box. As usual in the Swiss direct democracy, citizens can put forward motions or challenge a decision by the municipal council with a popular referendum. In Thalwil, a single person with voting rights can put forward a motion (“Einzelinitiative”) to a popular vote (Gemeinde Thalwil 2022, Kanton Zürich 2022).

Switzerland’s, and therefore, Thalwil’s energy system is characterised by 75% imports of fossil fuels (oil and gas) and nuclear fuels. Besides hydropower and some fuel wood, Switzerland does not have traditional sources of energy. The largest energy consumers in Switzerland are the mobility sector (32%), the residential building sector (30%), the industry (19%) and the service sector (17%) (BFE 2022).

Switzerland contributes to the global climate crisis but is also affected by global heating. The summer of 2022 was the second hottest ever measured, and the Swiss glaciers lost an extreme amount of 6% of their ice cover (Jorio 2022). Switzerland committed to the Paris Agreement and intends to reduce its greenhouse gas emissions to net-zero by 2050⁴.

A major part of the net-zero strategy is the transition of the energy system. Such an energy transition in the Swiss political system requires national, cantonal, and municipal policymaking actions. Therefore, the policy objective of Thalwil in the RRI-LEADERS project is the municipal-level territorial energy transition.

⁴ The current direct greenhouse gas emissions in Switzerland are 5 t CO₂-Eq per capita, excluding international air and marine traffic. The direct emissions are caused by mobility (32%, mostly fossil fuel consumption), by the building sector (24%, mostly fossil heating energy), by industry (25%), and by agriculture, waste management and emissions of synthetic gases (20%). These emissions are more than doubled if indirect emissions, meaning emissions incurred in other territories from imports to Switzerland, are included in the balance **Es ist eine ungültige Quelle angegeben.**



Introduction to the Energy Transition in Thalwil

The policy area of the municipality of Thalwil is the *energy transition*. One aim is to reduce fossil fuel use in the territory by increasing the production and use of renewable energy. Another aim of the energy transition is to reduce the total territorial energy consumption through energy efficiency or sufficiency measures. Both will contribute to reducing greenhouse gas emissions.

In the Swiss federal governance system, different hierarchical legislations are implemented on the national, cantonal, and municipal levels, following the *principle of subsidiarity* (Schweizerische Eidgenossenschaft 2023). While national strategies define the general policy objectives, concrete legislation and implementation often happen on the level of the cantons or municipalities. Municipalities have competencies regarding spatial planning, mobility planning, building regulations, energy planning, and waste management. Municipalities can also incentivise or subsidise desired behaviour and investments, e.g., in building energy efficiency measures.

Certain municipalities also own and operate their energy infrastructure. In Thalwil, the municipality owns the gas grid, while a Cantonal entity owns the electricity grid. Furthermore, Thalwil's municipal administration manages several buildings, including offices, schools, and public sports facilities, and operates a fleet of municipal vehicles.

Regarding the national energy strategy, the *Swiss Energy Strategy 2050* and the corresponding new energy act was accepted by a popular referendum in 2017. The energy strategy aims to reduce energy consumption, increase energy efficiency and promote domestic renewable energy production. This will reduce Switzerland's dependence on imported fossil fuels and create domestic jobs and investment (UVEK 2022, UVEK 2022). The Cantonal authorities have translated some strategic action areas into legislation. For example, the new Cantonal energy legislation bans, with some exceptions, the installation of fossil fuel based building heating systems. Instead, heat pumps, district heating and wood heating systems are allowed (Kanton Zürich 2021). This new law was passed in a popular referendum with 63 % approval in 2021.

Regarding the national climate strategy, Switzerland plans to reduce its net carbon emissions to zero by 2050 (The Federal Council 2019). The Canton of Zürich is more ambitious and plans to reach net-zero emissions by 2040. (AWEL 2022).

In December 2022, the municipality adopted a master plan for climate action containing measures for climate protection (i.e., reducing greenhouse gas emissions) and climate change adaptation (i.e., reducing the adverse impacts of global heating on the local level). The climate action master plan contains energy-related measures, such as incentives for building owners to invest in energy efficiency and low-carbon energy systems, community-financed renewable energy projects, adjustments to local spatial planning regulations, low-emission mobility concepts, and actions for the municipal administration (Gemeinde Thalwil 2022).

A new energy master plan was recently adopted. A transition process of the municipal gas supplier to an energy services company is also currently ongoing.

While climate protection and the energy transition are strongly interconnected, the energy transition, in addition, also encompasses self-sufficiency and security of supply issues.



Synthesis of Findings of the Individual project phases

Synthesis of Findings from Stakeholder Mapping and Analysis of Policy Discourse in Thalwil

First, the research team created an overview of the territorial stakeholders (Stakeholder Map) and reviewed relevant policy documents to provide a basis for applying the RRI-AIRR approach in Thalwil. The team conducted in-depth interviews and a focus group discussion to explore the territorial stakeholders' familiarity with the RRI-AIRR approach.

Although RRI-AIRR was generally unknown to the different stakeholders, they agreed that all aspects are important for a sustainable energy transition in Thalwil. The RRI-AIRR approach can serve as a guide to strengthen the necessary commitment of all stakeholders to the energy transition. The stakeholders considered many RRI keys and AIRR dimensions as essential elements of the Swiss system of government, which is characterised by federalism and direct democracy. Since citizens can directly vote on the municipal budget and other legislative issues, anticipation, inclusiveness (of the Swiss population) and responsiveness were considered standard practices in Thalwil. Private sector stakeholders intuitively use anticipation and responsiveness to run their businesses successfully and sustainably. Stakeholders understood public engagement, science education and open access as a means to raise awareness and consequently build a political majority for energy transition measures. This is particularly important as energy transition measures can lead to higher costs or behavioural changes among residents. Stakeholders agreed that the municipality needs to increase public engagement by targeting population groups with tailored information. New forms of public engagement would also allow decision-makers to consider more diverse perspectives in the municipality. In addition, greater involvement of residents from countries other than Switzerland was seen as an opportunity for Thalwil, as they are on average comparatively wealthy and well educated and could make valuable contributions to the energy transition.

For many stakeholders, it was not easy to link the energy transition with gender equality, diversity and ethics. However, they agreed that men currently dominate policy-making in Thalwil. Gender equality and diversity, ethics, reflexivity and partly open access were missing in the policy documents studied. However, stakeholders considered monitoring and evaluation of activities and achieved goals as crucial to gain more participation and commitment to the territorial energy transition.

In terms of political decision-making processes, stakeholders considered the various municipal committees composed of elected citizens as a good example of including society regardless of the political orientation and the timing of the legislative period. Although anticipation is systematically embedded in the political process in Thalwil, it could be further strengthened by reviewing the roles and responsibilities of the different political bodies.

These findings formed the basis for the statements in the Delphi Study and the mapping provided the contacts of stakeholders that were then involved in the following project phases.

Synthesis of Findings from Delphi Study Conducted in Thalwil

In a multi-stage online Delphi study, experts and stakeholders rated the importance of statements related to the energy transition in Thalwil. The experts reached a consensus on the importance of 45 statements. In a



World Café workshop, stakeholders further prioritised the statements and discussed their practical implementation in Thalwil.

This process resulted in the following four policy recommendations, which form the basis for the measures in this Transformative Outlook:

The municipality should strengthen its role model character. By implementing and communicating energy-efficient and sustainable measures in the areas of mobility, buildings and procurement, the municipality can demonstrate its leadership and inspire residents as well as businesses in the area.

The municipality should use its resources and connections to create new networks. Engaging and connecting stakeholders, including the local and international private sector, local banks and the population, will facilitate the co-creation of solutions that would otherwise be unthinkable.

The municipality should develop a comprehensive sustainability communication concept. The concept should include target group-specific messages and communication channels, including social media and video content, but also use traditional media such as posters and market stalls. Important target groups include children, young people, older residents and property managers.

The municipality should develop concepts to improve recycling opportunities and promote circular economy approaches. These topics were of great importance to the participants of the Delphi study and the World Café workshop. As waste management is a matter of municipal legislation, the municipality could improve its recycling and waste management services. In particular, access to recycling facilities should be improved for all residents and businesses.

Additional recommendations are already being planned or implemented independently of the RRI-LEADERS project (see actions of the Climate⁵ and Energy Master Plans⁶). These additional recommendations were about proactive and anticipatory planning of the energy transition and new incentive programmes for building renovations and investment in renewable energy production. They were not addressed further in the next step, but some related ideas (e.g. sustainable building codes) were nevertheless proposed as actions via the citizen review panel (see below).

Ideas that were developed in the consultations with experts but later failed to find consensus in the Delphi study and received very low scores included topics such as **competitions, gamification, interactive dashboards with live data** and the development of **mobile apps** for the population. These ideas have therefore not been considered further in the development of the Transformative Outlook.

Interestingly, the statements on increased monitoring and data collection were rated low in importance, while communication of progress was rated very high. This means that stakeholders feel that enough data is being collected somewhere, but it is not being actively used for evaluation and communication. The municipality could, independently of the actions proposed in this Transformative Outlook, investigate whether this is the case and how this data could be obtained.

⁵ The actions of Thalwil's climate master plan are available here: <https://www.thalwil.ch/publikationen/446108>

⁶ The municipal energy plan is available here: <https://www.thalwil.ch/gesetzessammlung/sammlung/1438382>



Synthesis of Findings from the Citizen Review Panel and the stakeholder workshop in Thalwil

In the Citizen Review Panel, residents from different socio-economic backgrounds and of different ages assessed the acceptance of the proposed objectives and actions for the energy transition and developed suggestions for improvement. The participants were specifically recruited to represent a broad spectrum of the population in Thalwil.

The four groups of residents expressed their assessment of the proposed objectives and actions in written comments. All comments agreed that the proposed actions are a good start for addressing the challenges of the energy transition. However, all comments also stressed that the municipality needs to act faster, bolder and more ambitiously. They also pointed out the importance of dialogue between political decision-makers and the population for a successful energy transition. As a format for this kind of exchange, they suggested participation events as well as more communication and information via traditional communication channels (newspapers, posters, etc.). Regarding the role model function of the municipality, the residents requested to focus on the building sector and not on mobility. To act as a role model, the municipality itself should commit to energy efficiency targets for buildings that go beyond the cantonal and national legal requirements.

The participants evaluated and prioritised all actions. The actions with the highest priority were:

- Rank 1: **Accelerated installation of photovoltaic (PV) systems on municipal buildings** (proposal of the project team building on the results of the previous steps)
- Rank 2: **Cooperation with schools in the field of energy and sustainability** (proposal of the project team building on the results of the previous steps)
- Rank 3: **Collaborative development of a local circular economy and recycling services** (proposal of the project team building on the results of the previous steps)
- Rank 3: **Sustainable and energy efficient municipal buildings** (new proposal by the participants)
- Rank 3: **Promotion of slow traffic (bicycle infrastructure)** (new proposal by the participants)
- Rank 6: **Inclusive and targeted communication** (proposal of the project team building on the results of the previous steps)

In a stakeholder workshop with representatives of all stakeholder groups (private sector, science, civil society, and politics and administration) who are also experts in the fields of energy, planning and construction, waste management, education and communication, the assessments and proposals of the population were reformulated into implementable actions. Three groups of five to six people worked on two to three measures each. Some actions were only worked on by one of the groups. Others were examined and commented on by a second group. The actions formulated in this way are presented in the next sections.

Additional to the findings from the Delphi Study, we derived the following findings from the outcomes of the citizen review panel and the stakeholder workshop in Thalwil:

The municipality should be a role model, particularly in the building sector. The participants rated two related actions as high priority. Firstly, the installation of PV systems on municipal buildings must be accelerated, and secondly, the municipality must comply with the highest standards for sustainable construction and energy efficiency in municipal buildings. Consequently, proposed actions on mobility and capacity building within the municipal administration were replaced. The stakeholders supported these



proposals, although they thought the PV potential on municipal infrastructure has to be thoroughly assessed before taking further measures.

The municipality should collaborate with schools on the topic of energy and sustainability. This proposed action is based on the Delphi study and World Café workshop, where cooperation with schools was suggested as a means to improve communication with children and their environment (parents, caregivers, etc.). This action caused a high level of activity in the Citizen Review Panel (many suggestions for improvement) and was subsequently rated as a high priority. The stakeholders suggested that such a collaboration could be best achieved by conducting annual “sustainability project days” with the municipal schools.

More recycling and circular economy services are also a priority for the population. The participation event with the population confirmed the results of the Delphi study. The participants made many concrete suggestions. The stakeholders supported actions in recycling and circular economy. In their implementation proposal, the stakeholders focused on increased collaboration with private initiatives.

Infrastructure for sustainable mobility is a priority for the population. Contrary to the low priority given to the originally proposed measures for sustainable mobility within the municipal administration (role model function), the participants demanded more infrastructure for their own sustainable mobility needs. In particular, they called for an extended bicycle network in Thalwil and more bicycle parking spaces for heavy electric bikes and bikes with trailers in central locations. Another proposed measure, albeit with lower priority, concerned the expansion of the bus network. The stakeholders disagreed that more infrastructure is needed. They however admitted that the visibility of existing policy and infrastructure measures, i.e. implementation of the bicycle concept, is low and needs to be increased. This will demonstrate to the population that the cycling infrastructure is being upgraded and it will motivate people to shift from cars to bikes.

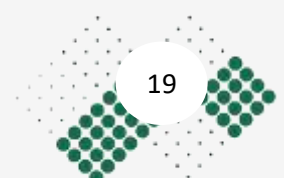
The prioritised actions in the Citizen Review Panel together with the findings from the Delphi Study (communication concept, strengthening of networks) were formulated into the following nine actions by the stakeholders.



Objective 1: The municipality is a role model for the energy transition

OBJECTIVE AND ACTIONS	TIME FRAME
OBJECTIVE 1: The municipality is a role model for the energy transition	
<p><i>Through exemplary action, the municipality can contribute directly to the goals of the energy transition (reduction of energy consumption, increase of renewable energy production). Indirectly, the various stakeholders (companies, property owners, population) can be motivated to reduce their energy consumption and invest in the production of renewable energies.</i></p>	
<p>Action 1.1: Accelerated construction of photovoltaic systems on communal properties and infrastructure</p> <p>In a first step, the municipality determines the potential for the installation of photovoltaic systems on properties and infrastructure belonging to the municipality and the municipality's pension fund. The potential analysis also includes available areas on facades, balconies, bus shelters, paved car parks, etc. In principle, only sealed surfaces are taken into account. Green spaces are excluded from the potential analysis, as they are rare in Thalwil. The potential analysis should be holistically sustainable and not only take into account technical and economic aspects, but also consider positive and negative social effects (e.g. negative effects on tenants when photovoltaic systems are built).</p> <p>In a second step, the municipality sets itself the goal of exploiting the potential within the next two legislative periods. At least one lighthouse project should demonstrate the sensitive use of a special building (e.g., a listed building should be equipped with a solar system, or an innovative approach or technology should be demonstrated). For large roofs, participation models for the population should be examined. Tenants (without the possibility of building their own system) should be given priority.</p> <p>Existing support programmes and advisory services for private individuals are not part of this action. They are already covered by other actions (see Climate Master Plan⁷).</p>	<p><i>Until 2030</i></p>

⁷ The actions of Thalwil's climate master plan are available here: <https://www.thalwil.ch/publikationen/446108>



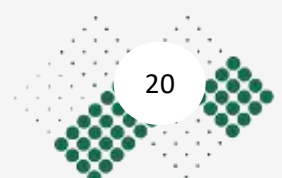
<p>Action 1.2: Introduction of sustainable construction standard</p> <p>The municipality commits to an existing sustainability label as a standard for building construction processes (e.g. SNBS⁸, LEED⁹, SIA 2040¹⁰) by the end of the legislative period (2026). The label should take into account all life cycle phases of buildings (construction, operation, supply and disposal) and the grey energy of building materials.</p> <p>As far as possible, the sustainability label should also be applied in road and underground construction (sustainable procurement).</p> <p>The inspection of building projects by an external certification body is crucial for the exemplary role and accordingly obligatory.</p> <p>As an accompanying measure, the municipality organises tours of municipal and private showcase projects for interested parties.</p>	<p><i>Until 2026</i></p>
<p>Action 1.3: Measuring progress in the energy transition and communicating with the population</p> <p>The municipality continues the “Energierstadt” (European Energy Award, EEA¹¹) label as a monitoring instrument in the field of energy and sustainability and strives for the "EEA Gold" label.</p> <p>In addition, the municipality introduces regular sustainability reporting, which is underpinned by key figures that are as concrete as possible.</p> <p>Central communication contents from the EEA and the sustainability reporting are prepared in an appealing and comprehensible way for various digital and analogue communication channels.</p> <p>By translating central communication content into several languages, people whose native language is not German will also be reached. A special focus will be on the integration of new residents and newly elected commission members.</p>	<p><i>From 2024</i></p>

⁸ Standard Nachhaltiges Bauen Schweiz SNBS – a Swiss sustainable construction standard: <https://www.snbs-hochbau.ch/>

⁹ Leadership in Energy and Environmental Design (LEED) is an international energy efficient building standard: <https://www.usgbc.org/leed>

¹⁰ A standard for sustainable construction by the Swiss Society of Engineers and Architects: <https://www.sia.ch/>

¹¹ The European Energy Award is a label for municipalities and cities. The European Energy Award supports local governments in establishing interdisciplinary planning approaches and implementing effective energy and climate policy measures through the rational use of energy and increased use of renewable energies: <https://www.european-energy-award.org/>. The Swiss equivalent is the “Energierstadt” Label: <https://www.energiestadt.ch/>



Elaboration and Justification

Many of the experts and stakeholders involved confirmed the importance of the municipality's role model character in the project. Direct effects of such measures are the reduction of energy consumption and the increase of renewable energy production. In addition, the municipality's employees are sensitised to the issues of energy and sustainability. Successful actions can be used for communication towards companies and the population and thus inspire them to act. The disadvantage of such actions is that they cause relatively high costs and effort and that they could be perceived as patronising by the employees.

Thalwilers expect the role model behaviour primarily in the area of construction. Actions in the area of mobility were not considered a priority by the population and are therefore not proposed here.

Important steps, such as a renovation concept for the municipality's buildings and the conversion of the municipal vehicle fleet to alternative fuel technologies, are already in the planning or implementation phase. However, some of these are not sufficiently visible to the population. Therefore, monitoring and communication should be strengthened.

Relation to ongoing policy processes/strategies

The proposed actions are related to the Climate Master Plan and the activities related to the European Energy Award label.

Transformative Outlook action	Related ongoing processes	Additions to ongoing processes
1.1	<ul style="list-style-type: none"> Climate Master Plan: VE-04: Acceleration of the realisation of photovoltaic (PV) systems on municipal properties Climate Master Plan: VE-02: Citizen participation model photovoltaic systems (PV systems) 	<ul style="list-style-type: none"> Potential to be quantified (incl. facades, balconies, etc.) Potential to include pension fund buildings Potential should also include infrastructure (bus shelters, parking spaces, etc.) Participation models should favour renters
1.2	<ul style="list-style-type: none"> Climate Master Plan: GB-01 - Maintenance and renovation concept for municipal buildings Climate Master Plan: GB-02 - Consideration of indirect emissions in construction and refurbishment (procurement) 	<ul style="list-style-type: none"> Commitment to a binding sustainable construction standard External review as a crucial part of leading by example
1.3	<ul style="list-style-type: none"> European Energy Award (EEA) activities 	<ul style="list-style-type: none"> Objective to reach «EEA Gold» Proactive communication of the EEA Reports New sustainability reporting



RRI Framework

RRI RELATED MEASURES	
Public engagement	<i>Only through active communication (--> Action 1.3) can the role model effect be created. In Action 1.1, participation models for the population are to be examined. In Action 1.2, information events (tours with experts) are planned. Specific formats for dialogue or feedback are not foreseen for this objective.</i>
Open access	<i>The publication of EEA reports (--> Action 1.3) is in line with the open access principle.</i>
Gender equality and diversity	<i>All communication content should use gender-neutral language and images. Through translations and the focus on new residents, people, who have so far had little involvement in the energy transition in Thalwil, are addressed and integrated.</i>
Ethics	<i>Participation models for PV systems should give priority to renters (--> Action 1.1). This offers an opportunity for participation to groups of people who cannot build a PV system themselves. In addition, social aspects should also be taken into account in the potential analysis.</i>
Science education	<i>The target group-specific preparation of important communication content for less involved stakeholder groups can contribute to scientific and political education.</i>



Objective 2: The municipality strengthens its cooperation for the energy transition with the private sector and other stakeholders

OBJECTIVE AND ACTIONS	TIME FRAME
<p>OBJECTIVE 2: The municipality strengthens its cooperation for the energy transition with the private sector and other stakeholders</p>	
<p><i>In order to accelerate the energy transition in Thalwil and to develop local solutions and products for specific challenges, the municipality strengthens the exchange with the private sector and other networks and facilitates the exchange between existing networks and institutions.</i></p>	
<p>Action 2.1: Ensuring the information exchange of existing networks on energy transition topics</p> <p>In order to implement the energy transition, the municipality seeks increased cooperation with existing institutions and networks.</p> <p>The municipality ensures regular exchange (at least once a year) with existing networks (HEV¹², HGV¹³, EGZ¹⁴, Oekopolis¹⁵, Zimmerberg-Sihltal economic promotion, etc.). The format for this exchange are physical events hosted at municipal premises.</p> <p>The municipality uses the communication channels of the networks and associations (Gotthard street market, trade show, etc.).</p>	<p>From 2024</p>

Elaboration and Justification

Experts and representatives of the local economy, politics, and associations and societies demand that cooperation between the municipality, the private sector, and other stakeholders be strengthened. The municipality as a connecting element of all stakeholders can initiate and promote this cooperation. This should help to find specific solutions to Thalwil's challenges, such as joint investments in solar installations.

Such an exchange forum can also be useful when new heating networks are planned. In the case of heat networks, a critical mass of connections must be committed as early as possible in the planning, so that the network can be developed in an economically sensible way.

¹² The Swiss homeowners association. Usually it has regional chapters: <https://www.hev-schweiz.ch/>

¹³ The Thalwil business owners association: <https://hgv-thalwil.ch/>

¹⁴ Energiegenossenschaft Zimmerberg – a local energy cooperative: <https://e-zimmerberg.ch/>

¹⁵ Oekopolis is civil society organisation in Thalwil dedicated to sustainable development: <https://www.oekopolis.ch/>



Relation to ongoing policy processes/strategies

Currently, there is no such institutionalised and regular exchange on energy topics in Thalwil. The exchange between the municipalities is ensured by the "Fachgruppe Energiestädte Zimmerberg" expert group¹⁶, where the respective energy officers meet regularly.

However, a similar exchange on socio-political topics takes place in the "Integration Promotion Network (Netzwerk Integrationsförderung)". Within this network, politicians, administrators, as well as representatives of the church, international schools, and organisations representing the interests of migrants and expats meet. Several projects have already emerged from this network.

Transformative Outlook action	Related ongoing processes	Additions to ongoing processes
2.1	<ul style="list-style-type: none"> Intermunicipal exchange of energy officers in the "Fachgruppe Energiestädte Zimmerberg" 	<ul style="list-style-type: none"> Exchange focused on stakeholder groups in the community (HGV, HEV, Oekopolis, etc.)

RRI-AIRR Framework

RRI RELATED MEASURES	
Public engagement	<i>Engaging with different stakeholder groups is a form of public engagement.</i>
Open access	<i>Through the exchange, the municipality's intentions and objectives regarding the energy transition are made available to a subset of the public via the formal and informal networks of the exchange participants. Additional publications on official channels are not planned.</i>
Gender equality and diversity	<i>No activities are planned for this key.</i>
Ethics	<i>No activities are planned for this key.</i>
Science education	<i>The exchange with different stakeholders is a form of scientific and political education for those involved.</i>

¹⁶ This is an exchange format where municipalities of the Zimmerberg district participating in the European Energy Award activities meet. More information on the European Energy Award program can be found here: <https://www.european-energy-award.org/>



Objective 3: The municipality communicates energy and sustainability issues in a targeted and inclusive manner

OBJECTIVE AND ACTIONS	TIME FRAME
<p>OBJECTIVE 3: The municipality communicates energy and sustainability issues in a targeted and inclusive manner</p>	
<p><i>Targeted communication activities towards the residents, the local business community and other stakeholders promote behavioural changes and investments. These will accelerate the energy transition in Thalwil.</i></p>	
<p>Action 3.1: Development of a consistent communication concept on energy and sustainability issues</p> <p>The municipality creates a consistent communication concept on energy and sustainability topics with an independent corporate design.</p> <p>The concept aims at inclusive and transparent communication. The concept is to feature various analogue and digital channels. The concept shall use gender-neutral language. Important content will be translated into English.</p> <p>The concept includes periodic energy and climate campaigns.</p> <p>The utilisation, especially of the English-language texts, will be reviewed periodically.</p>	<p><i>From 2024</i></p>
<p>Action 3.2: Implementation of school project days on sustainability</p> <p>The municipal administration sets up a new working group "School Project Days Sustainability" under the leadership of the school administration. The teachers and the municipal administration are also closely involved in the working group. The working group develops a concept for sustainability project days for the respective school year. First implementation in the school year 2024/25. The municipality provides the necessary funds for the implementation of the project days. The working group develops several main topics that are suitable for different school levels. Possible topics are energy, waste, nutrition, and environmental protection. The working group makes sure that the project days are in good harmony with the legislative goals, the Climate Master Plan and especially with the existing curricula in the field of Education for Sustainable Development (Bildung für Nachhaltige Entwicklung, BNE).</p>	<p><i>From school year 2024/25</i></p>



In addition to the core group (representatives of the school administration, teachers and the department of environment and sustainability in the municipality), various other stakeholders should be involved, in particular the parents' council, extracurricular youth work, principals' conference, management of the education department, pupils' council.

The communication department of the municipality informs transparently and proactively about the progress of the project. In addition, the schools use their own channels, e.g. to involve parents.

Measurable goals for the project days should be set as early as possible. The entire action is to be evaluated.

Elaboration and Justification

Experts as well as representatives of the local economy, politics and associations demand more communication on the topics of energy and sustainability from the municipality. The advantage of inclusive and targeted communication is that the most diverse segments of the population and the economy can be involved in the energy transition. In particular, it is also about reaching groups of people who are not reached by today's communication methods due to language barriers and the complexity of the topics.

A specific group that could be addressed more strongly is young Thalwilers. Children, adolescents and young adults should be reached through increased cooperation with Thalwil schools and other educational institutions in the region. In this way, they could act as "ambassadors" to draw the attention of people in their environment to the topics of energy transition and sustainability.

Relation to ongoing policy processes/strategies

The Climate Master Plan includes an action for the creation of a communication concept. The action proposed here could be incorporated into this concept.

The municipal administration and the Thalwil school are two independent organisational units. Increased cooperation was already sought earlier (see accountability report¹⁷ legislative goals 2018-2022). Currently, there is little exchange and it is not institutionalised and structured. Cooperation between administration and school is limited to individual projects (e.g. biodiversity project insect garden). In the environmental field, the school uses the services of the PUSCH foundation¹⁸, which offers school visits, teaching materials, modules for project weeks or further training for teachers.

¹⁷ The report can be found here: https://www.thalwil.ch/docn/3778930/Rechenschaftsbericht_Legislaturziele_2018_-_2022.pdf

¹⁸ PUSCH is a foundation supporting communities, schools and companies with practical knowledge and concrete action aids in solving environmental tasks. Among other services, they offer environmental education for schools: <https://www.pusch.ch/>



Transformative Outlook action	Related ongoing processes	Additions to ongoing processes
3.1	<ul style="list-style-type: none"> Climate Master Plan: Ü-02: Development of a communication concept for the implementation of the measures from the Climate Master Plan 	<ul style="list-style-type: none"> Focus on inclusion through multiple languages
3.2	<ul style="list-style-type: none"> Environmental education at Thalwil schools through "PUSCH - Practical Environmental Protection Cooperation between school and administration on individual projects (e.g. insect garden) 	<ul style="list-style-type: none"> Structurally anchored cooperation between school and municipal administration. Broadening the content to include energy, waste, nutrition

RRI-AIRR Framework

RRI RELATED MEASURES	
Public engagement	<i>A communication concept for different target groups is one form of public engagement (--> Action 3.1). Through cooperation with schools, schoolchildren and their caregivers are increasingly involved (--> Action 3.2).</i>
Open access	<i>The communication strategy is designed to promote transparency. However, the communication strategy as such will not be published.</i>
Gender equality and diversity	<i>The communication concept is gender-sensitive. The translation into foreign languages breaks down barriers and addresses population groups that have so far had little involvement in the energy transition.</i>
Ethics	<i>No activities are planned for this key.</i>
Science education	<i>The school projects (--> Action 3.2) contribute to science education.</i>



Objective 4: The municipality improves access to local recycling and circular economy services for the residents and businesses

OBJECTIVE AND ACTIONS	TIME FRAME
<p>OBJECTIVE 4: The municipality improves access to local recycling and circular economy services for the residents and businesses</p>	
<p><i>In order to reduce the resource and energy consumption of Thalwil's population and businesses, the municipality is working with private parties to expand recycling and circular economy services.</i></p>	
<p>Action 4.1: Expansion of local circular economy and recycling services in cooperation with private initiatives</p> <p>The municipality shall continue and expand existing cooperation offers with private parties. Specifically, the municipality shall:</p> <ul style="list-style-type: none"> • Review and offer the “bring and pick-up day”¹⁹ with a new concept. Alternatively, it could support online exchange opportunities. E.g. use Crossiety²⁰ as a market place or look for alternatives. • Continue the book market as usual and additionally examine an online exchange. • Ensure the continued existence of the Repair Café²¹ through support with specialist staff and liability and promote it more. • Organise the collection of plastics via the retail trade, monitor the development and examine the effect. • Promote public and private circular economy offers and alternatives to disposal on relevant websites (www.entsorgungthalwil.ch, etc.). • Ensure transparent, multilingual communication through various channels (including schools). • Provide a budget for specific advertising measures. <p>The success of this action is to be verified by evaluating the waste statistics and the development of user numbers.</p>	<p>From 2024</p>

¹⁹ The so-called “Bring- und Holtag” (bring and pick-up day) is an event for the free exchange of household items in good condition. Until a few years ago, it was organised once a year by the municipality.

²⁰ Crossiety is a digital platform offering a virtual village square with a market place, event calendar and similar services. See <https://www.crossiety.ch/>

²¹ Repair Cafés are non-profit meetings where visitors bring defective products and repair them with others or on their own. On site, volunteer repair experts give advice and help with repairs. Visitors can use tools free of charge and common spare parts can be bought on site. The Repair Café in Thalwil is organised by a local association: <https://www.repaircafe-thalwil.ch/>



Elaboration and Justification

The RRI-LEADERS process showed that the topics of recycling and circular economy express the needs of the stakeholders and the population. Both are topics that affect the everyday life of Thalwil residents and where experts and stakeholders would like to see improvements.

This action will meet the needs of the population and reduce the overall consumption of energy and resources. The planning of actions in the area of waste and recycling management is particularly suitable for participatory methods such as those tested in the RRI-LEADERS project, since their implementation is complex and requires behavioural changes on the part of the population. In addition to the municipality of Thalwil, many other actors with different interests must be involved, such as the Zweckverband Entsorgung Zimmerberg²² (EZI), to which eight other municipalities besides Thalwil are affiliated.

Relation to ongoing policy processes/strategies

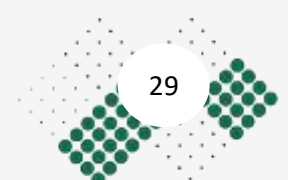
The municipality is working on a new waste management strategy, which will be completed by 2026. The actions proposed here could complement this strategy. EZI will cooperate with a major Swiss supermarket chain on plastic collection as early as 2024.

Transformative Outlook action	Related ongoing processes	Additions to ongoing processes
4.1	<ul style="list-style-type: none"> Climate Master Plan: KF-02: Promotion of the local circular economy Development of new waste strategy (completion 2026) Cooperation between Zweckverband Entsorgung Zimmerberg (EZI) and a supermarket chain on plastic collection as of 2024 	<ul style="list-style-type: none"> Increased cooperation and support of private initiatives by the municipality

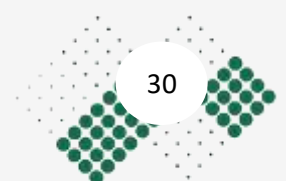
RRI-AIRR Framework

RRI RELATED MEASURES	
Public engagement	<i>The integration of recycling and the circular economy into the energy transition policy meets a need of the stakeholders and the population. Through the expansion of offers, the public is increasingly involved in the topic.</i>
Open access	<i>Public and private initiatives should be better promoted.</i>

²² The municipal solid waste collection and processing is managed jointly by nine neighbouring municipalities: <https://ezi.ch/zweckverband/>



Gender equality and diversity	<i>Multilingual communication breaks down language barriers and reaches groups of people who are otherwise not very involved.</i>
Ethics	<i>No activities are planned for this key.</i>
Science education	<i>Through increased (multilingual) communication on the topics of waste, recycling and circular economy, as well as the involvement of schools, the actions contribute to scientific education.</i>



Objective 5: The municipality supports the transition to sustainable mobility

OBJECTIVE AND ACTIONS	TIME FRAME
<p>OBJECTIVE 5: The municipality supports the transition to sustainable mobility</p>	
<p><i>By increasing the visibility of the cycling concept, the municipality motivates part of the population to switch to sustainable mobility. This lowers energy consumption for mobility and reduces greenhouse gas emissions.</i></p>	
<p>Action 5.1: Increasing the visibility of the bicycle traffic concept</p> <p>The implementation of the existing cycling concept from 2018 will be pursued rigorously.</p> <p>Implemented measures are explicitly communicated through various channels. E.g. with before and after pictures at the locations of the implemented measures.</p> <p>In addition, the municipality organises a retrospective/interim summary "5-year cycling concept". The core element of the event should be bicycle tours with political participation. The event is to be promoted with video material on the website and in social media as well as a poster campaign in public spaces.</p> <p>For a better long-term anchoring of the promotion of sustainable mobility in the political process in Thalwil, the cycling concept is to be integrated into the Climate Master Plan.</p> <p>The bicycle traffic concept will be revised and updated by 2028 at the latest. This will include a review of parking spaces for large bicycles, e-bikes and cargo bikes.</p>	<p>2024 / 2028</p>
<p>Action 5.2 Monitoring of bicycling traffic</p> <p>The number of cyclists in Thalwil will be surveyed every five years. These surveys will be incorporated into the bicycle traffic concept. The first survey is to take place together with the review in 2024. For the survey, the use of smart city technologies such as traffic counting cameras with image recognition software should be examined.</p>	<p>From 2024</p>



Elaboration and Justification

Around one third of energy consumption in Switzerland is caused by motorised transport. This energy consumption can be reduced by switching from cars to other forms of mobility. To do this, alternatives must be as attractive as possible. This action resulted from a suggestion made at the citizen review panel. Participants demanded more infrastructure for bicycles (cycle paths and bicycle parking spaces²³) and the abolition of parking spaces for cars. They hope that this will lead to a switch from car to bike by parts of the population.

Stakeholders and experts believe that a similar effect could be achieved by increasing the visibility of existing processes. Experts and stakeholders acknowledged that the existing cycling concept²⁴ needs to be better communicated.

Relation to ongoing policy processes/strategies

Thalwil has an existing bicycle traffic concept. The action proposed here can complement and support this.

Transformative Outlook action	Related ongoing processes	Additions to ongoing processes
5.1	<ul style="list-style-type: none"> Bicycle traffic concept (2018) 	<ul style="list-style-type: none"> Increased communication and stakeholder engagement Increased data collection

RRI-AIRR Framework

RRI RELATED MEASURES	
Public engagement	<i>The retrospective/interim summary "5-year cycling concept"(--> Action 5.1) is a form of public engagement.</i>
Open access	<i>The results of the increased measurement and data collection (--> Action 5.2) can be made available. The reports will be published on the municipal website. Raw data can be shared with researchers and other interested actors upon request.</i>
Gender equality and diversity	<i>The data collection could include gender-disaggregated data and focus also on the needs of children and older cyclists.</i>
Ethics	<i>The public review and increased visibility create trust in the policy processes.</i>
Science education	<i>No activities are planned for this key.</i>

²³ An overview on bicycle parking infrastructure can be found here: <https://www.thalwil.ch/verkehruebersicht/9163>

²⁴ The cycling traffic concept from 2018 can be found here: <https://www.thalwil.ch/publikationen/172120>



AIRR reflections

Participation

Switzerland's political system offers citizens numerous ways to exert direct influence on local decision-making processes. In referendums and municipal assemblies, the population with voting rights has the opportunity to participate in decision-making processes. Municipal assemblies are usually held four times a year. There are also other opportunities for participation, for example in construction projects.

In addition, the municipality tries to involve the population with information events on specific topics. During the project it was criticised that often the same people are present at such events, who dominate the discussion and can have a deterrent effect on people attending for the first time. The project, especially with the Citizen Review Panel, has shown possibilities of how in the future people who today, for various reasons (no Swiss citizenship, language barriers, childcare, disability, little (political) education), are only rarely involved in local politics, can be more closely involved in participatory processes and decisions.

Future-oriented and proactive

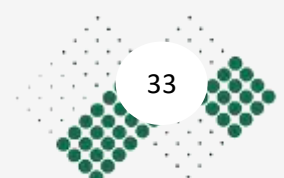
The municipality frequently participates in innovative projects with partners from science and research (e.g. RRI-LEADERS, citizens' panel with the University of Zurich), which question the status quo and test alternative approaches to policy-making. A systematic evaluation of environmental policy measures, on the other hand, does not currently take place. A recommendation from the mapping of the RRI-LEADERS project suggests increased monitoring and critical evaluation of energy policy measures. The monitoring and evaluation is also the basis for communication and serves as evidence of accountability to taxpayers.

Communication and Dissemination

Objectives 2 and 3 of the Transformative Outlook are directly related to communication and dissemination. Action 2.1 will establish institutionalised communication channels between the municipality, the industry, and civil society organisations. Action 3.1 will increase the communication with residents.

Local policymakers either were involved in the development of this transformative outlook or will be made aware during the endorsement discussions in the respective political bodies. The endorsement will likely be accompanied by a press release for local newspapers.

External policy-makers and science stakeholders can access all project outputs on the RRI-LEADERS website: www.rri-leaders.eu



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